

FOR RESEARCH AND PRODUCTION

PREVALS PRODUCTION KIT

PREVALS is a research set-up. However, its components are also excellent for use in your own 3D print production system.

Most of the modules have their own application programming interface (JSON-RPC) and their own IP address. So mutual communication can be easily organised via Ethernet using common TCP/IP interface techniques. With the use of such proven API protocols, complicated and costly custom software is unnecessary. You can get by easily using languages like JavaScript, Python, C#, ...



Prevals Production Kit

A PRODUCT FROM MIOTO

PREVALS is a product from Miot, the proprietary label of Van Mierlo Ingenieursbureau in Eindhoven The Netherlands. This bureau develops and implements hardware and software solutions, primarily for measurement and control issues, for third parties. These embedded systems often form the heart of products and processes known throughout the world.

Building on more than 30 years of experience in automation and process control, and on extensive knowledge in the domains of IOT and mesh networking, Van Mierlo markets its own products under the brand name of Miot. Océ Technologies component inside.



3D MATERIAL JETTING. GET GOING QUICKLY WITH PREVALS

PRINthead EVALUATION SYSTEM



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PREVALS MAKES 3D PRINTING RESEARCH POSSIBLE

3D printing technology promises unparalleled opportunities. But considerable effort is required to make this promise come true. After all, material jetting is extremely complex and requires thorough research and preparation. PREVALS helps you with this. This intelligent printhead evaluation system enables you to get started quickly.

PREVALS is a unique research set-up that allows you to experiment with various media and with the extended settings of your hot-melt printhead. After just a few hours, you can investigate (the structure of) materials with this system and determine the proper configurations related to such variables as temperature, pressure, positioning and timing. Thanks to PREVALS, your 3D printer is quickly ready for flawless production.

MOTION CONTROLLER

The Motion Controller manages the linear motion of the substrate. This module also sends the timing signals to actuate the nozzles at the right moment.

DRIVER

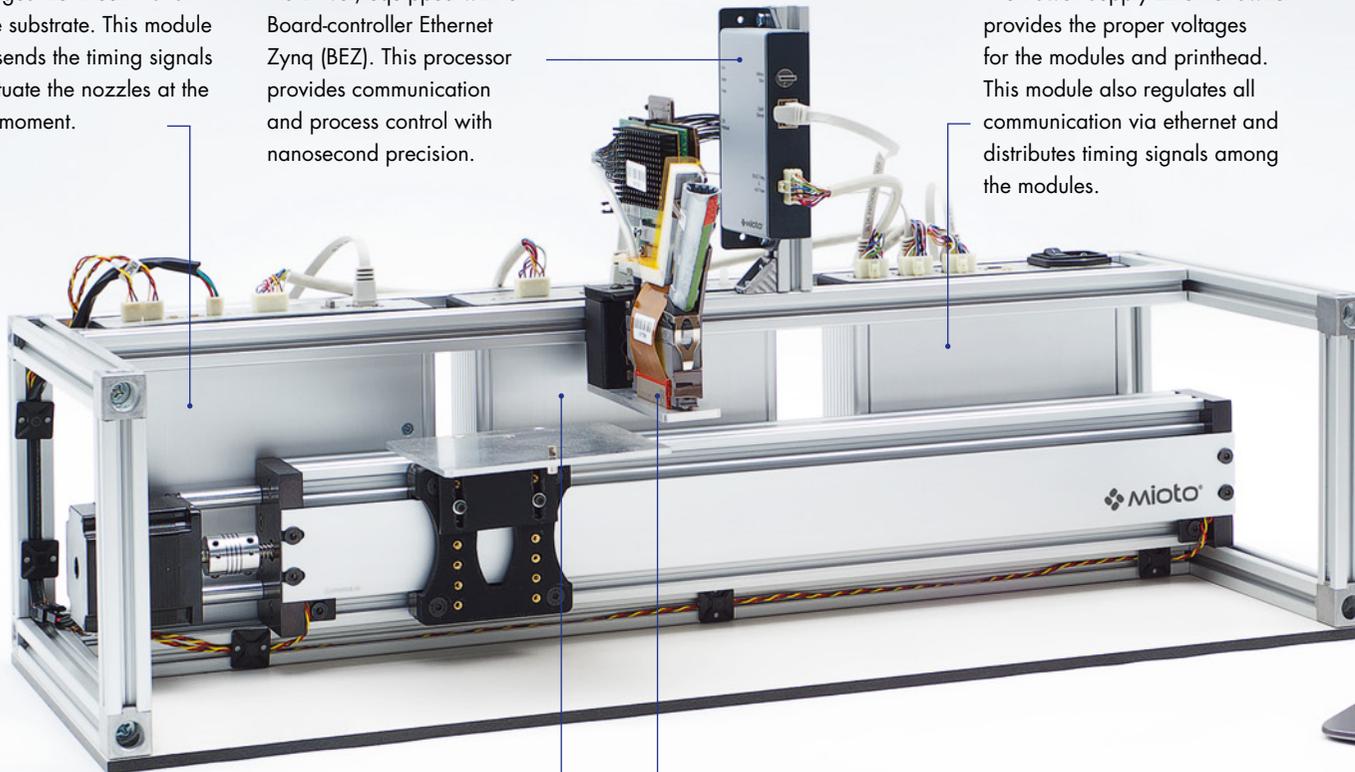
The PREVALS nerve centre is the Driver, equipped with a Board-controller Ethernet Zynq (BEZ). This processor provides communication and process control with nanosecond precision.

POWER SUPPLY ETHERNET SWITCH

The Power Supply Ethernet Switch provides the proper voltages for the modules and printhead. This module also regulates all communication via ethernet and distributes timing signals among the modules.

WEB INTERFACE

All important information, such as the status of the various modules, appears clearly on the screen. The web interface also makes it extremely easy to set the Prevals parameters, to select images and to start the printing.



PRESSURE

A weak vacuum is created to keep the printhead from "leaking". The printhead can also be flushed using overpressure so that any contamination is removed immediately.

PRINthead

Prevals controls the four ASICs (application-specific integrated circuits) in the hot-melt printhead via Ethernet in such a way that exactly the right droplet (29 picolitres) leaves the right nozzle at the right moment.

